LISTING OF CLAIMS

The following listing of claims should be entered to replace all prior listings of the claims in this application. In accordance with 37 C.F.R. § 1.121, the status of each claim is indicated parenthetically. As can be seen in this listing, no amendments to the claims are made in this Response and Request for Reconsideration. Claims 1-123 and 142-143 have been cancelled. Claims 124-141 remain in the application. Should any unintended informality exist, it is requested that the undersigned be contacted by telephone so that it may be resolved as expediently as possible.

1-123. (Cancelled)

124. (Previously Presented)

A method of producing multiple embryos from a female bovine mammal comprising:

a. creating superovulation in said female bovine mammal to create at least two eggs comprising the step of using an ovulatory pharmaceutical to cause multiple eggs to be produced;

b. establishing an insemination sample having a number of sperm cells less than about one-half the number of sperm cells of a typical unsorted insemination dosage;

c. inserting at least a portion of said insemination sample having a number of sperm cells less than about one-half the number of sperm cells of a typical unsorted insemination dosage into a uterus of said female bovine mammal after onset of estrus;

d. fertilizing a plurality of said eggs at success levels selected from the group consisting of at least 35%, at least 41%, at least 50%, and at least 90% of a typical unsorted insemination dosage;

e. producing at least two embryos from fertilizing said plurality of said eggs in said female bovine mammal.

125. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal according to claim 124 wherein said creating superovulation is encouraged during the estrous cycle.

126. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal according to claim 125 wherein said step of using an ovulatory pharmaceutical comprises the step of injecting said ovulatory pharmaceutical in half days increments between any of days 2 and 18 of the estrus cycle.

127. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 126 wherein injecting said ovulatory pharmaceutical in half day increments comprises injecting at least seven injections and further comprising the step of incorporating an estrus manipulation system at least on about the sixth and seventh injections.

128. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 127 wherein inserting at least a portion of said insemination sample having a number of sperm cells less than about one-half the number of sperm cells of a typical unsorted insemination dosage into said uterus comprises inserting said sperm cells into both uterine horns of said uterus.

129. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 128 wherein inserting said sperm cells into both uterine horns comprises inserting said sperm cells approximately between 20 to 24 hours inclusive after said onset of said estrus.

130. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 124 wherein said step of using an ovulatory pharmaceutical to cause multiple eggs to be produced comprises the step of injecting a dosage of follicle stimulating hormone a plurality of times a day.

131. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 130 wherein said step of creating superovulation in said mammal to create at least two eggs further comprises the step of incorporating an estrus manipulation system comprising the step of supplementing said dosage of follicle stimulant hormone with prostaglandin F-2-alpha.

132. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 131 wherein injecting said dosage of follicle stimulating hormone a plurality of times a day comprises injecting said follicle stimulating hormone in approximately half day increments at a dosage level of 6, 6, 4, 4, 2, 2, 2, and 2 mg between days 9 and 12 inclusive of the estrous cycle and wherein supplementing said dosage of follicle stimulant hormone with prostaglandin F-2-alpha comprises supplementing 25 and 12.5 mg of prostaglandin F-2-alpha on the sixth and seventh dosages, respectively, of said follicle stimulating hormone.

133. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 124 and further comprising the step of separating sperm cells based on the amount of nuclear DNA each said sperm cell contains.

134. (Previously Presented)

A method of producing multiple embryos from a female bovine mammal as described in claim 133, further comprising the step of staining said nuclear DNA of a plurality of said sperm cells.

135. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 134, wherein said step of separating said sperm cells comprises sorting said sperm cells using a flow cytometer.

136. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 135, further comprising the step of allowing at least one said embryo to develop into an animal of a desired sex.

137. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 136, further comprising sorting said sperm cells at a rate greater than 500 sorts per second .

138. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 136, further comprising sorting said sperm cells at a rate greater than 2000 sorts per second.

139. (Previously Presented)
A method of producing multiple embryos from a female bovine mammal as described in claim 136, further comprising chemically coordinating a sheath fluid to create a sheath fluid environment for said cells which is coordinated with both a pre-sort and a post-sort cell fluid environment comprising establishing a sheath fluid which contains about 2.9% sodium citrate.

140. (Previously Presented)

A method of producing multiple embryos from a female bovine mammal as described in claim 139, wherein chemically coordinating a sheath fluid to create a sheath fluid environment for said cells which is coordinated with both a pre-sort and a post-sort cell fluid environment comprises establishing a sheath fluid which contains a hepes buffered medium.

141. (Previously Presented)

A method of producing multiple embryos from a female bovine mammal as described in claim 140, further comprising collecting cells having the desired characteristic and cushioning said cells from impact with a collection container which has a wide opening.

142-143.(Cancelled)